REGULAR CAMERA USER MANUAL

960H Ultra Resolution Series

The product image may differ from the actual product.

It's recommended to use this camera with a DVR which supports 960H video recording.

Please read the instructions thoroughly before using the product.

CAUTION

RISK OF ELECTRIC SHOCK

CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

Only operate this apparatus from the type of power source indicated on the label.

The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

ROHS Announcement
All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste.

CE Mark
This apparatus is manufactured to comply with the radio interference.

The company does not warrant that this manual will be uninterrupted or error-free. We reserve the right to revise or remove any content in this manual at any time.

FEATURES

1. 1/3" HR Color CCD with SONY Effio DSP
2. 700 TVL superior image quality
3. Digital wide dynamic range (D-WDR) to increase the image recognizability of the overexposed and dark areas
4. Clear and sharp images in the dark environment with the B/W mode selectable
5. Further camera parameters configuration via its own OSD
6. Multilingual on-screen display menu in 7 languages
   (English / Japanese / German / French / Russian / Portuguese / Spanish)
7. Built-in microphone for audio recording

PACKAGE CONTENT

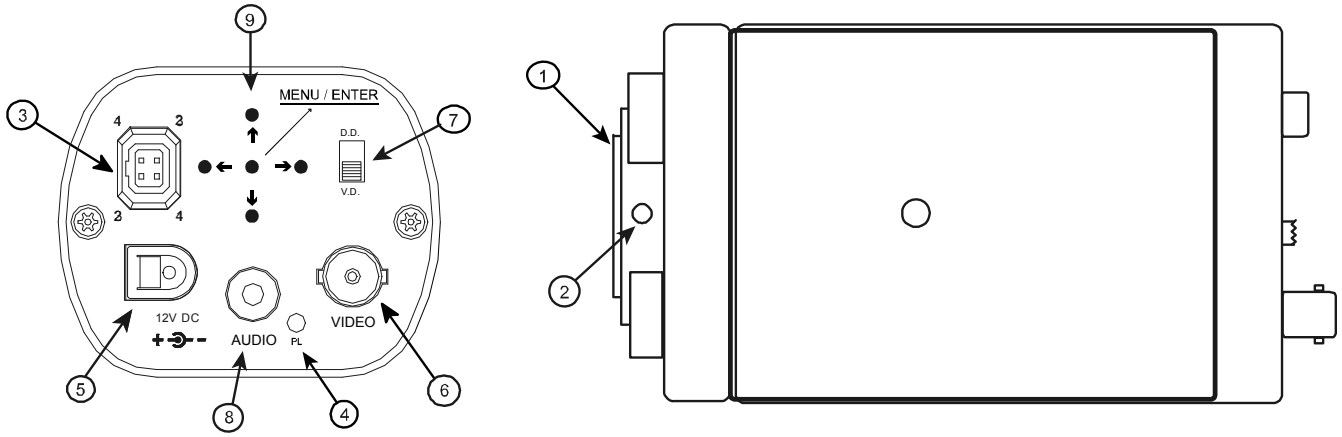
- Camera x 1
- User manual x 1
- Wrench x 1

SPECIFICATION*

Pick up Element	1/3" HR color CCD image sensor with SONY Effio DSP
Number of Pixel	976(H) x 494(V) <NTSC> / 976(H) x 582(V) <PAL>
Resolution	700 TVL
Minimum Illumination	0.1 Lux / F2.0
S/N Ratio	More than 60dB (AGC off)
Electronic Shutter	AUTO: 1/50 (60) to 1/100,000 sec. MANUAL: 1/50(60), FL 1/120(100), 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 sec.
Lens Mount	CS Mount
IRIS Mode	AES / VD / DD
Gain Control	AGC adjustable / OFF
Day & Night Mode	Color / B/W / Auto
Color Rolling Suppress	YES
DWDR	YES
Video Output	1.0 Vp-p composite, 75Ω
Microphone	Built-in
Power Source (±10%)	DC 12V
Current Consumption(±10%)	80mA
Dimensions (mm)**	117(L) x 60(W) x 50(H)

* The specifications are subject to change without notice.
** Dimensional Tolerance: ± 5mm

MAJOR OPERATING CONTROL AND FUNCTIONS



1. **Flange Back Adjusting Ring**
   It is suitable for CS-mount lens. When using C-mount lens, please use the **CS-C conversion ring***.
2. **Back Focal Lock Hexagonal Bolt**
   The camera is set at the standard back focal position. Fine-tuning is inevitable according to the lens types. Adjust the lens back-focus by turning the focusing knob.
3. **Auto Iris Lens Connector**
   Supplies power and controls signals to an Auto Iris Lens.
4. **Power LED Indicator**
   The Power LED Indicator indicates normal status during operation.
5. **Power Input Terminal** ⚠
   - For connecting to DC12V regulated power supply.
6. **Video Output Connector (VIDEO OUT)**
   For connecting to CCTV monitor video input with coaxial cable.
7. **V.D. / D.D. selectable**
   When using Auto Iris Lens, select Video Drive or Direct Drive depend on the type of lens you used.
8. **Audio Output Connector (AUDIO OUT)**
   Connect to the AUDIO IN connector of the recording device.
9. **OSD Menu Selection**
   For more details, please refer to “CAMERA PARAMETERS”.

INSTALLATION

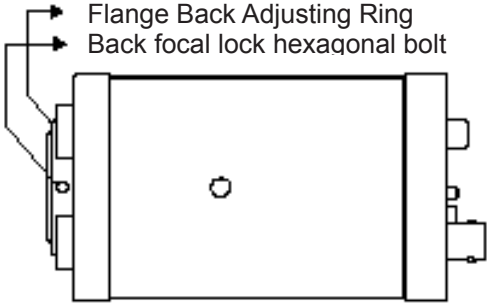
***** It is recommended to have the following installation done by the qualified service personnel or system installer. *****

1. Mount a lens onto the camera (By turning it clockwise).
   It is suitable for CS-mount lens.
   But if the lens you chose is C-mount, please use the **CS-C conversion ring*** to connect the C-mount lens and the camera.
2. Switch the lens selection depending on the lens you used.
   *** Auto iris lens:**
   V.D. / D.D.: Select VD or DD depend on the type of lens you used.
3. Connect the camera VIDEO output and the monitor video input with a 75Ω coaxial cable.
4. Connect the camera AUDIO output and the monitor audio input with a coaxial cable.
5. Connect the POWER terminal of the camera to a right power supply.
6. Adjust the focus or flange-back (Please refer to NOTE for adjustment instructions).

* The CS-C conversion ring is not supplied in the sales package and needs to be purchased separately.

NOTE: Focus or Flange-Back Ring Adjustment

1. Mount the lens
   by turning it clockwise on the lens mount of the camera.
2. Loosen the screws on the flange-back adjusting ring.
3. Turn the flange-back adjusting ring to the desired position.
4. Tighten the screws on the flange-back adjusting ring.

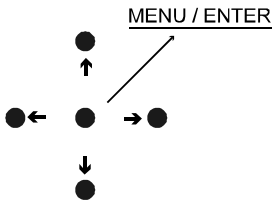


PRECAUTIONS

★ Do not install the camera in an environment where the humidity or temperature is high
★ Do not install the camera under the unstable lighting condition
★ Do not expose the camera to rain or moisture
★ Do not keep the camera face to strong light directly
★ Do not touch the front glass of the camera
★ Do not use other than specified power source
★ Do not disassemble the camera

CAMERA PARAMETERS

There are five buttons on the camera rear panel for users to further configure camera parameters.



If you want to …	**Press …**
Enter the camera configuration menu	MENU
Move to the sub-menu you want	↑ / ↓
Change setting	← / →
Enter the configuration page of an option	ENTER

Menu Tree

For options with ↵, press the button "↵ " (Enter) to enter their respective setting pages.

SUB-MENU	**OPTIONS**			
LENS	MANUAL			
	AUTO↵	TYPE	DC / VIDEO	
		MODE	AUTO / OPEN / CLOSE	
		SPEED	0 ~ 255	
SHUTTER / AGC	AUTO↵	HIGH LUNINANCE	MODE	SHUT
			BRIGHTNESS	0 ~ 255
		LOW LUMINANCE	MODE	AGC / OFF
			BRIGHTNESS	x0.25 / x0.50 / x0.75 / x1.00
	MANUAL↵	MODE	SHUT + AGC	
		SHUTTER	1/50; 1/120; 1/250; 1/500; 1/1000; 1/2000; 1/4000; 1/10000	
		AGC	6.00 / 12.00 / 18.00 / 24.00 / 30.00 / 36.00 / 42.00 / 44.80	

SUB-MENU	OPTIONS		
WHITE BAL	ANTI CR		
	MANUAL↵	LEVEL	012 ~ 031
	PUSH LOCK		
	ATW↵	SPEED	0 ~ 255
		DELAY CNT	0 ~ 255
		ATW FRAME	x0.50 / x1.00 / x1.50 / x2.00
		ENVIRONMENT	INDOOR / OUTDOOR
	PUSH		
	USER1↵ / USER2↵	B – GAIN / R – GAIN	0 ~ 255
BACKLIGHT	OFF / BLC / HLC		
PICT ADJUST	↵	MIRROR	OFF / ON
		BRIGHTNESS / CONTRAST / SHARPNESS / HUE / GAIN	0 ~ 255
ATR	OFF		
	ON↵	LUMINANCE	LOW / MID / HIGH
		CONTRAST	LOW / MIDLOW / MID / MIDHIGH / HIGH
PRIVACY	OFF		
	ON↵	AREA SEL	1/4; 2/4; 3/4; 4/4
			TOP / BOTTOM: 0 ~ 288
			LEFT / RIGHT: 0 ~ 370
		COLOR	1 ~ 8
		TRANSP	0.00 / 0.50 / 0.75 / 1.00
		MOSAIC	ON / OFF
DAY / NIGHT	COLOR		
	B/W↵	BURST	ON / OFF
	AUTO↵	BURST	ON / OFF
		DELAY CNT / DAY -> NIGHT / NIGHT -> DAY	0 ~ 255
NR	↵	NR MODE	Y/C; Y; C; OFF
CAMERA ID	OFF / ON↵		
LANGUAGE	ENGLISH / 日本語 / DEUTSCH / FRANCAIS / РУССКИЙ / PORTUGUÊS / ESPAÑOL		
CAMERA RESET			

Sub-menu Brief Description

SUB-MENU	DESCRIPTION
LENS	Select and set the type of your lens: D.D., V.D., or board lens.
SHUTTER / AGC	1. Select “AUTO” to allow the camera to act automatically when the light condition of the environment changes. 2. Select “MANUAL” to fix the shutter and AGC modes of the camera no matter how the light condition of the environment changes.
WHITE BAL	Process the current image to retain color balance over a color temperature range.
BACKLIGHT	Adjust the image to compensate for an area that is overpowered by brightness because of excessive light. “BLC” is to automatically adjust the level of the light to show more details in the dark environment. “HLC” is to mask extremely bright areas.
PICT ADJUST	Adjust the color of the pictures in, for example, brightness, contrast, sharpness and hue.
ATR	D-WDR to increase the image recognizability of the overexposed and dark areas.
PRIVACY	Mask areas that should be not visible.
DAY / NIGHT	Set the night surveillance mode to color or B/W.
NR	Reduce noise by separating luminance (Y) and chrominance (C) settings.
CAMERA ID	Set the title of the camera.
LANGUAGE	Select the language of the menu on-screen display.
CAMERA RESET	Press ↵ to restore all settings to their factory default values.